

Date: Sun, 25 Sep 94 04:30:23 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@UCSD.Edu
Reply-To: Ham-Homebrew@UCSD.Edu
Precedence: Bulk
Subject: Ham-Homebrew Digest V94 #284
To: Ham-Homebrew

Ham-Homebrew Digest Sun, 25 Sep 94 Volume 94 : Issue 284

Today's Topics:

 Hi Z Probe 50 mhz Freq Counter
 ICOM IC260 Interface Info
 Plans for 2M 50W solid state amp
 Plans for 2m 50W solid state amp?
 Pspice
 Quads and baluns?
 Reuse surface mount parts?
 send prospect.txt

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

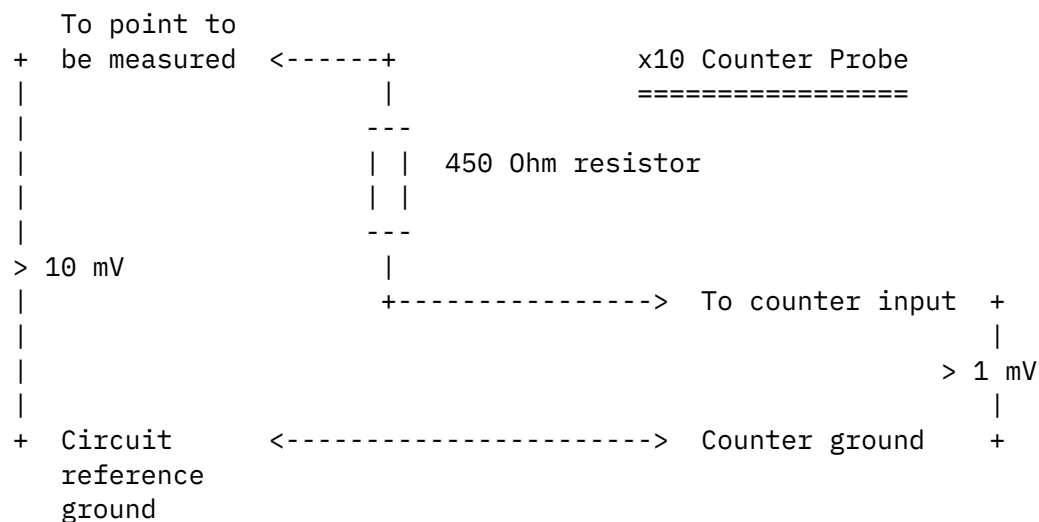
We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Thu, 22 Sep 1994 22:33:33 +0000
From: agate!howland.reston.ans.net!news.sprintlink.net!demon!arkas.demon.co.uk!
Michael@ames.arpa
Subject: Hi Z Probe 50 mhz Freq Counter
To: ham-homebrew@ucsd.edu

In article <m0qnYY8-000EmBC@rogue.com> dshalita@rogue.COM "David Shalita" writes:

> My counter has <1mv rms 10 - 600 mhz sensitivity, so adding a
> MAR amp may not be necessary. My counter already has 4 MAR-6's
> at the 50 ohm input. I suspect a (wide band) Hi-Impedance
> probe is what is needed for this measurement. Please comment.
>
> I've not been able to use the 50 ohm input of my counter
> to measure the NE-602 LO frequency or the LO on similar mixer IC's.

Something like the "x10" probes used on CRO's may be useful to you. However, these are designed for 1 MOhm inputs. You could build the equivalent for a 50 Ohm input as follows:



You could replace the 450 Ohm resistor with a 4950 Ohm device. This results in an impedance of 5 kOhms, but a sensitivity of 100 mV.

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--
Mike Dower
GOVEY          'Quoth the raven, "Never more".' ... Poe
VK2ENG
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Date: 23 Sep 1994 18:28:45 GMT

From: eng.iac.honeywell.com!gustin@uunet.uu.net
Subject: ICOM IC260 Interface Info
To: ham-homebrew@ucsd.edu

I am looking for any info on the ACC plug interface to the
ICOM 260 all-mode 2M tranceiver. I am trying to program the
frequency etc thru this interface. Any info would be appreciated

Jay Ke7ot

Date: 23 Sep 1994 16:32:15 GMT
From: library.erc.clarkson.edu!rpi!marcus.its.rpi.edu!lasca1@uunet.uu.net
Subject: Plans for 2M 50W solid state amp
To: ham-homebrew@ucsd.edu

Muenzler, Kevin (MUENZLERK@uthscsa.EDU) wrote:

: --Boundary (ID 2+aB7dyVtEJniohzoY1g2w)
: Content-type: TEXT/PLAIN

: In digest 281 Jay Porter writes:

: >I am looking for information or plans for building a 50W solid state
: >amp for use in the 2m or 2m/440 bands. I am interested both in complete
: >circuit diagrams or suggestions for power transistors that I can use to
: >build these amps. Any information would be appreciated. Thanks.

: Jay,
: Check some of the OLD ARRL handbooks (early 80's and late 70's).
: They had a couple of amps (FM) that you might be interested in.
: One was a 10-15W for handytalky and one was a 10W in 60W out.
: Both were solid state and used fairly common transistors. If you
: can't get one of these handbooks I'd be glad to FAX or snail-mail
: you a copy of them.

Yeah that's a good place to start. Depending on your level of
experience and level of interest in really building it from scratch,
you might condider another option: using a hybrid module. I haven't
looked carefully at it, but once you get to buying all of the good
components like UNELCO caps etc, it might even be cost effective.

Date: 23 Sep 1994 22:49:16 GMT

From: eng.iac.honeywell.com!agreen.iac.honeywell.com!alf@uunet.uu.net
Subject: Plans for 2m 50W solid state amp?
To: ham-homebrew@ucsd.edu

jrp1175@summa.tamu.edu (PORTER, JAY ROGER) wrote:

> I am looking for information or plans for building a 50W solid state
> amp for use in the 2m or 2m/440 bands. I am interested both in complete
> circuit diagrams or suggestions for power transistors that I can use to
> build these amps. Any information would be appreciated. Thanks.

I would suggest the Motorola MRF247. Approx 50w out for 5w in. Available
from RF Parts, San Marcos, Ca. 1-800-737-2787

For cct details, see the Motorola data books. App Note AN791

GL es 73s de Alf NU8I/G4ABB

Date: 23 Sep 1994 18:35:17 GMT
From: pacbell.com!well!barrnet.net!agate!howland.reston.ans.net!cs.utexas.edu!
gerald@cc.utexas.edu!edb252e.edb.utexas.edu!user@ames.arpa
Subject: Pspice
To: ham-homebrew@ucsd.edu

Do any of you use pspice on a Mac? I downloaded a copy but am unable to
get it to run. My system crashes...with a bad F-line instruction message.
Any ideas?
Thanks...John

Date: 23 Sep 1994 22:25:18 GMT
From: news.tek.com!tek4.cse.tek.com!royle@uunet.uu.net
Subject: Quads and baluns?
To: ham-homebrew@ucsd.edu

montp@vortex.eng.sc.rolm.com (Mont Pierce):

> . . .

> Here are some of the pros and cons for using and not using a balun:
> (speaking purely of 50 ohm to 50 ohm baluns)

> Pros for using a balun:
> matches the balance dipole to the unbalanced coax
> no rf should run down the outside of the coax

> Cons for using a balun:

> small amount of RF is lost going through the balun
> . . .

The only loss in a current balun made with an open-air coil of coax or external ferrite beads is due to I^2R loss where the I is the undesired current flowing on the outside of the coax. If it's significant, the current on the outside of the coax is large (indicating a need for the balun unless you want the current there) and the balun isn't well designed.

The desired current, on the inside of the coax, is totally unaffected by the presence of the balun.

Roy Lewallen, W7EL
roy.lewallen@tek.com

Date: Fri, 23 Sep 1994 15:14:22 -0400
From: niven.ksc.nasa.gov!algot.ksc.nasa.gov!k4dii.ksc.nasa.gov!user@ames.arpa
Subject: Reuse surface mount parts?
To: ham-homebrew@ucsd.edu

In article <1994Sep17.221056.23096@wb3ffv.wb3ffv.ampr.org>,
Mike.Czuhajewski@hambbs.wb3ffv.ampr.org (Mike Czuhajewski) wrote:
>When you remove SMDs and subsequently solder them
> again, are they likely to survive?.....
> Solder paste and hot air reflow would not be
> used, since this is for work at home.)

Mike-

I'm sure there is a limit to the temperature these devices can take, but it may be higher than some people think. The main problem, as I see it, is that the solder required for these devices, is NOT ordinary tin-lead alloy.

If ordinary solder (63-37 tin-lead) is used, the lead can amalgamate with the silver that is fired onto the component. The result is that you can no longer solder to it. You must use something like a "silver-saturated" solder, or the appropriate solder paste. (Note: this is not the same as "silver solder", which has a much higher melting point.)

73, Fred, K4DII

Date: Thu, 22 Sep 94 22:44:52 PDT

From: ihnp4.ucsd.edu!ucsnews!sol.ctr.columbia.edu!howland.reston.ans.net!
news.moneng.mei.com!uwm.edu!news.alpha.net!usenet@network.ucsd.edu
Subject: send prospect.txt
To: ham-homebrew@ucsd.edu

In article <rec.radio.info-arrrl.email.info_778561204@ve6mgs.ampr.ab.ca>,
<mtracy@arrrl.org> writes:

> Path:

news.alpha.net!mvb.saic.com!unogate!news.service.uci.edu!usc!howland.reston.ans
net!gatech!newsxfer.itd.umich.edu!nntp.cs.ubc.ca!unixg.ubc.ca!quartz.ucs.ualbe
rta.ca!alberta!ve6mgs!rec-radio-info

> Message-ID: <rec.radio.info-arrrl.email.info_778561204@ve6mgs.ampr.ab.ca>

> Supersedes: <rec.radio.info-arrrl.email.info_775882802@ve6mgs.ampr.ab.ca>

> Sender: news@ve6mgs.ampr.ab.ca (UseNet News System)

> Originator: mark@ve6mgs.ampr.ab.ca

> From: mtracy@arrrl.org (Michael Tracy)

> Subject: Periodic Announcement - ARRL Email Information Server
(info@arrrl.org)

> Newsgroups:

rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.homebre
w,rec.radio.info

> Followup-To:

rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.homebre
w

> Lines: 113

> Approved: rec-radio-info@ve6mgs.ampr.ab.ca

> Expires: Sat, 24 Sep 1994 23:59:59 GMT

> Date: Fri, 2 Sep 1994 21:00:06 MDT

> Lines: 113

> Xref: news.alpha.net rec.radio.amateur.misc:4028

rec.radio.amateur.digital.misc:959 rec.radio.amateur.homebrew:962

rec.radio.info:688

>

> Periodic Announcement - ARRL Email Information Server (info@arrrl.org)

>

> The services that the ARRL provides via the internet include the

> Email Information Server and the Technical Information Service.

> The Information Server is an automated mail server that gives you

> access to many of information files relating to various facets of

> Amateur Radio. You can retrieve any or all of these files by

> sending an email message to info@arrrl.org here at ARRL HQ.

> Each file you request is then mailed to you automatically.

>

> To use it, mail messages to:

>

> info@arrrl.org

>

> Each line of the message body should contain a command as shown below.

> The subject of your message is not processed and may be omitted. You
> may place as many commands in a message as you want. The files you
> request will be sent to you in separate messages. Only ASCII text
> files are supported.
>
> Valid INFO commands:
>
> reply <address> (may be needed - see below for explanation)
> help
> index
> send FILENAME (example: send prospect.txt)
> quit
>
> In the above message example, "help" retrieves a brief set of
> instructions for info, "index" retrieves a list of available files
> and "send prospect.txt" retrieves a text file containing information
> on becoming a radio amateur.
>
> Note to users with FTP capability: All of these files are also
> available by anonymous ftp to oak.oakland.edu in the
> pub/hamradio/arrl/infoserver area. Retrieve the file index.txt
> in the /league sub-directory for a complete listing of available
> files.
>
> If you want to retrieve several text files with one message, use a
> separate line for each "send filename" request.
>
> Your From: field or Reply-to: field in your header should contain a
> valid Internet address, including full domain name. If your From:
> field does not contain a valid Internet address, the answer will not
> reach you. If this is the case, then use the reply command as shown
> above. When needed, this command should always be the first command
> in your message.
>
> IMPORTANT: Please use the quit command in your message. This will
> prevent processing errors from message signatures.
>
> PLEASE NOTE!: This is an automated system not capable of handling
> written requests. Any questions on the info-server or the content
> of any of its files should be directed to mtracy@arrl.org.
>
> ALSO NOTE!: Do *NOT* reply to messages sent from info@arrl.org - the
> reply address is redirected to keep bounced messages from endlessly
> looping. Write a new message to info@arrl.org instead.
>
> The Technical Information Service gives League members on the
> internet better access to the knowledgeable technical staff here
> at ARRL HQ. Questions relating to Amateur Radio and related

> technical topics are welcome. To use this service, send a normal
> e-mail message to tis@arrl.org with your question spelled out in
> plain english. For best service, be as specific as possible and
> keep your line length in messages to a maximum of 80 characters.
> Due to personnel limitations, priority will be given to questions
> from League members.

>

> Best Regards,

>

> Michael Tracy, KC1SX, ARRL Technical Information Services Coordinator
> (e-mail mtracy@arrl.org)

>

>

> Sample of files available from INFO: (There are lots more!)

>

> Note - If you are not yet an Amateur Radio operator retrieve the
> file prospect (send prospect) for information on how to easily get
> started in this fun hobby.

>

> FILENAME SIZE DESCRIPTION

> -----

> PROSPECT.TXT	2k	How to get your Amateur Radio license
> EXAMS.TXT	52k	Current exam schedule info - updated bi-weekly
> EXAMINFO.TXT	9k	Examinations - what to bring - requirements
> USERS.TXT	6k	List of HQ Email addresses
> ARRLCAT.TXT	39k	Catalog of ARRL Publications - commercial content
> JOIN.TXT	2k	How become an ARRL member
> SERVICES.TXT	5k	A condensed list of ARRL membership services
> TOUR.TXT	28k	An electronic tour of ARRL Headquarters
> DIR.HQ	5k	Visiting ARRL HQ - directions and tour information
> HFBANDS	7k	Breakdown of users of HF spectrum
> Q-SIGS	1k	ARRL list of Amateur Radio Q-signals
> W1AW.SKD	2k	W1AW schedule of transmissions and operation
> PRODREV1.TXT	12k	Which rig is best? Part 1 - QST Lab Notes
> PRODREV2.TXT	22k	Which rig is best? Part 2 - QST Lab Notes
> !LIST.TXT	6k	QST Bibliographies List
> RFIGEN.TXT	37k	How to solve an EMI/RFI problem - QST Lab Notes
> RFISOURC.TXT	13k	Where to buy filters - EMI-proof telephones etc.
> ADDRESS.TXT	16k	Lots and lots of ham/electronic company addresses
> KITS.TXT	6k	List of companies that sell kits
> BBS.TXT	12k	List of ham-radio land-line bulletin boards
> FAQ1.TXT	25k	Introduction to the FAQ and Amateur Radio
> FAQ2.TXT	45k	Amateur Radio Orgs, Services and Info Sources
> FAQ3.TXT	32k	Amateur Radio Advanced and Technical Questions

>

> -----

> American Radio Relay League, Inc.	Tel: 1-203-666-1541
> 225 Main Street	Fax: 1-203-665-7531

> Newington, CT 06111 Email: mtracy@arrl.org

> -----

Date: Sat, 24 Sep 1994 14:31:21 GMT

From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!gatech!wa4mei!ke4zv!
gary@network.ucsd.edu

To: ham-homebrew@ucsd.edu

References <35mqrj\$1j9j@info2.rus.uni-stuttgart.de>,
<35taft\$k0e@vortex.eng.sc.rolm.com>, <35ut90\$a6i@crl4.crl.com>

Reply-To : gary@ke4zv.atl.ga.us (Gary Coffman)

Subject : Re: Quads and baluns?

In article <35ut90\$a6i@crl4.crl.com> rdcole@crl.com (Ron Cole) writes:

>Mont Pierce (montp@vortex.eng.sc.rolm.com) wrote:

>: Pros for not using balun:

>: no RF lost because of balun

>

>: Cons for not using balun:

>: some rf goes down the outside of the coax

>: small distortion to wave pattern caused by rf on coax shield

>

>Power running down the Coax does not add to the radiated signal.

>When using a balanced design antenna, most designs are, you should

>balance the system to get the most signal into the air.

Oh, it most certainly **does** add to the radiated signal. It adds
vectorially however, and may not give you the pattern you expect.
With a simple dipole, though, the pattern isn't much to write home
about anyway unless you're using the nulls off the ends for some
purpose.

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				gary@ke4zv.atl.ga.us

Date: 23 Sep 1994 10:28:34 +1000

From: ncar!newsxfer.itd.umich.edu!europa.eng.gtefsd.com!howland.reston.ans.net!
agate!msuinfo!harbinger.cc.monash.edu.au!news.cs.su.oz.au!metro!news.ci.com.au!
eram.esi.@@elroy.jpl.nasa.gov

To: ham-homebrew@ucsd.edu

References <CwFwuA.96u@odin.corp.sgi.com>, <CwHI7G.7M1@freenet.carleton.ca>,
<CwICzB.CDB@news.hawaii.edu>et
Subject : Re: Reuse surface mount parts?

[I would e-mail this, but it bounces]

In article <CwICzB.CDB@news.hawaii.edu>,
jeffrey@kahuna.tmc.edu (Jeffrey Herman) writes:

| I've always used a heatsink (needle nose pliers) when soldering
| transistors. Are IC's so heat resistant that no heatsink is
| necessary to prevent damage? How would you heatsink *all* the
| leads of the device at the same time?

Like you, I was pretty paranoid with heat-sinking. Then I discovered
the joys of a temperature-controlled soldering iron...

--

Dave Horsfall (VK2KFU) | dave@esi.com.au | VK2KFU @ VK2AAB.NSW.AUS.OC | PGP 2.6
Opinions expressed are mine. | E7 FE 97 88 E5 02 3C AE 9C 8C 54 5B 9A D4 A0 CD

Date: (null)
From: (null)
F Pin Pout \$\$\$\$

144-148 0.4 43 72

430-450 0.4 45 105

I left out the part numbers, because there are many types to
choose from, these are just examples. They are a bit pricey, but they
are very easy! If it were me, I might consider looking for a surplus
2-way radio.. and stealing the PA... that is if I just wanted to get
the power.

-Lance, procrastinating student

--

Lance Lascari WS2B <lascal@rpi.edu> Senior EE @ Rensselaer Polytechnic Inst.
Mount Greylock Expeditionairy Farce Secret agent #52,342

End of Ham-Homebrew Digest V94 #284
